252 Mortar and pestle or grinding slab and rub stone
used in preparing different types plant food.
412 Mortars (pahal) included pit mortars, which were depressions 2-10 in. deep, 3-5 in. wide in level or gently sloping granite outcrops (Kroeber, [773] Handbook, 524, pl. 45). Manufacture of pit mortars attributed to Coyote, but fact recognized that mortar holes enlarged with use until at depth of 10 in. they became unusable.

412 Portable stone mortars (ku·pahal) from 6-35 in.
●322 in total diameter; made by pecking out depression
324 in round soft gray stone with harder, pointed rock (SM). Small stone mortars readily transportable; taken on piñon expeditions. Large wooden portable mortars (ku·pahal) of Yokuts type (Kroeber, Handbook, 524, pl. 45) made from hard wood, oak (SM), juniper (FP); bowl burnt out and interior smoothed with rough rock. These latter "easier to make than stone mortars" and commonly used around home, but were too large to take on trips. Basketry hopper used. Pestles (poho'owal) for all types mortars were roughly cylindrical, granite or slate rocks, picked up in river beds, used as found; length of pestles varied from 5-20 in., width from 2 1/2-5 in., depending on size of mortar.

412 Grinding slab (mana·l) oval or roughly rec-
324 tangular piece of granite or black slate, from 14-20 in. long, 10-15 in. wide, and 2-4 in. thick; used on one side only; grinding surface flat or slightly concave. Suitable slabs fairly abundant in area, and woman always kept one such in house, leaning up against wall. With slab, either small ovoid rub stone (takibit) 3-4 in. long, about 3 1/2 in. wide, 2 in. thick, flat on top and bottom surfaces (Gifford and Schenck, 92, pl. 31), or larger stone of same shape (takin) used; these picked up in river beds. Long cylindrical mullers not used. When in use, grinding slab set up with flat rock, about 2 in. thick, placed under upper end of slab, so that slab slanted downward, away from operator. Lower end of slab rested on flat basketry tray.

412 All informants familiar with 3-legged metate
177 and horned muller (Steward, 1933, 341, pl. 5g),
252 because one such introduced among them by former Jesus Miranda, Mexican who married Petra Miranda, Tübatulabal woman; this metate used primarily for grinding corn (FP). However, present-day Tübatulabal ordinarily pound parched corn or wheat into meal in pit mortars, following older pattern.

252 Cooking techniques included stone boiling, boiling in clay pots, parching with live coals on basketry tray, parching in fire, roasting on coals, in ashes, in pit ovens, on spits, in fire. General pattern of native cookery, which resulted in economy of effort, was to apply heat only once to any variety of food intended to be eaten in cooked state. Thus small seeds which had already been parched, and previously roasted piñons, after they were ground into meal, were merely mixed with cold water when made up into gruel (u'u·gil); neither seed nor piñon meal recooked by stone boiling (or any other method), parched foods being